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10/526,017	02/25/2005	Eva Wagner	266138US0PCT	4210
22850	7590	01/17/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			GILLESPIE, BENJAMIN	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			01/17/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/526,017

Applicant(s)

WAGNER ET AL.

Examiner

Benjamin J. Gillespie

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/18/2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 21 and 22 are rejected because said claims recite the limitation "component (e) is a diol selected from the group consisting of," wherein the group lists various compounds such as glycerol, trimethylolpropane, erythritol, and sorbitol, these compounds are not diols; clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 3-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Bradford et al (2003/0083397 A1) and as further disclosed in DE 196 09 617 and Sirkoeh et al ('602).

Bradford et al teach a coating composition comprising polyurethane that is the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) a compound corresponding to that of claim 7, which has a molecular weight less than 750 g/mol (Paragraphs 25, 37, 44, 63, and 69).

Regarding the polyisocyanate, Bradford et al teach that it consists of diisocyanates, such as isophorone diisocyanate, as well as allophanate-modified polyisocyanates (Paragraphs 64 and 67).

2. The coating composition further comprises photo and thermal initiators, and said coating composition is applied to a wooden, metal, or plastic substrate, which may also consist of an automotive part. The coating is then exposed to radiation in an inert environment and heated to a temperature between 120°F and 350°F (Paragraphs 94, 96, 98, 104, 109, 111, 119, 124).

3. Regarding the component c), Bradford et al teach that the polyisocyanate may be an adduct of a polyisocyanate and oxazolidine which contains an isocyanate-reactive functional group, such as those described in German patent application DE 196 09 617. DE 196 09 617 teaches on page three, that oxazolidines consist of compound IV, which has a capped amino-groups, and R^8 and R^9 consist of C_1 - C_{10} aliphatic groups and R^7 consists of amino, mercapto and hydroxyl groups (Page 3 lines 35-50).

4. Regarding the chemical structure of claim 8, based although not explicitly stated, it is inherently disclosed by Bradford et al. Starting on paragraph 44, Bradford et al explains that an isocyanate-functional prepolymer, which is based on polyisocyanate and low molecular weight diol, is reacted with hydroxylalkyl(meth)acrylate. Bradford et al go on to teach that examples of the resulting urethane acrylate are disclosed in U.S. patent 4,634,602 (Sirkoch et al), herein

incorporated by reference. Sirkoch et al teach the reaction product of low molecular weight polyols, such as 1,1-decanediol, 1,6-hexanediol, glycerol, and sorbitol, and diisocyanate, followed by the reaction with hydroxyalkyl(meth)acrylates (Col 2 lines 38-40, 46-52, 53, 61; col 3 lines 3-4; col 5 lines 4-7). Additionally, Bradford et al teach the hydroxyl-functional urethane acrylate is further reacted with the oxazolidine modified polyisocyanate to form the dual-cure binder (Paragraphs 63 and 69).

5. Regarding applicants claimed e) component, as noted before Bradford et al teach that low molecular weight polyol may be included in the reaction system, however there is a further disclosure stating that a “thermally curable binder component (a2),” may also be included in the system, wherein examples of (a2) consist of the same multi-functional isocyanate-reactive compounds that were used to make the urethane acrylate discussed in the previous paragraph.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 and as further disclosed in DE 196 09 617 in view of Arora et al ('154). As previously discussed Bradford et al teach a coating composition comprising water dispersible polyurethane, which is the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic

acids, and c) a compound corresponding to that of claim 7, however Bradford et al is silent in specifying dispersive groups that correspond to applicants' claims (Paragraph 99).

7. Arora et al teaches a polyurethane coating system, which is the reaction product of polyisocyanate and isocyanate-reactive compounds including an amino-capped group (Abstract). Furthermore, Arora et al teaches the active dispersing group consist of a base neutralized acid-functional compound having isocyanate-reactive hydrogens, and exists in amounts of 25 mol% as seen in examples III-VI (Col 3 lines 1-3, 22-23, 29-31, and 31-34). It is important to note that the molar amounts in Arora et al are applicable to Bradford et al because the dispersion groups provide the same function. Therefore it would have been obvious to one skilled in the art at the time of invention to include in Bradford et al the dispersing group of Arora et al based on both references disclosing water dispersible polyurethanes, having analogous compositions and it is prima facie obviousness to add a known ingredient for its known function, i.e. water dispersive groups in a known water dispersible polyurethane polymer; in re Linder 173 USPQ 356; in re Dial et al 140 USPQ 244.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 and as further disclosed in DE 196 09 617 in view of Bruchmann et al ('569). Aforementioned, Bradford et al teach a polyurethane coating comprising the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) an amino-capped isocyanate-reactive oxazolidine compound, which corresponds to the claimed aminal group, however there is no mention of the other amino-capped groups listed in claim 6.

9. Bruchmann et al also teach a polyurethane coating comprising polyisocyanate and amino-capped isocyanate-reactive compounds including oxazolidine (Col 1 lines 5-11, 47-50, col 2 lines 53-67, col 3 lines 10-15, col 6 lines 63-67, col 7 lines 28-35). Furthermore Bruchmann et al teach that compounds analogous to the amino-capped isocyanate-reactive compound consist of aldimines and ketimines (Col 4 lines 23-28). Therefore it would have been obvious to one skilled in the art at the time of invention to include aldimine and ketimine groups, as taught by Bruchmann et al because the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. In re Ruff 118 USPQ 343 (CCPA 1958).

Response to Arguments

10. Applicants' arguments with respect to claims 3-22 have been considered but are not persuasive. Applicants argue that the claimed invention is not anticipated or rendered obvious by the prior art because the required isocyanate-reactive component (a2) does not correspond to applicants' claimed e) compound. Instead applicants state the claimed invention specifically requires the exclusion of compound (a2), which is a required component of Bradford et al.

11. Firstly the examiner would like to point out that contrary to applicants' assertions, Bradford et al teach low molecular weight polyols, as previously discussed, thereby satisfying claims 19-22. Furthermore, regarding applicants remarks that (a2) is excluded by the language "consisting essentially of," even if applicants maintain the teaching of paragraph 50 in Bradford et al does not satisfy the claimed composition, i.e. component (a2) still only corresponds to the

high molecular weight polyol, the examiner would like to point out that applicants have not established any criticality with respect to the exclusion of high molecular weight polyol.

12. The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristics" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). Applicants have not set forth any evidence showing that the exclusion of high molecular weight polyol would result in a composition that exhibits a change in the resulting material properties, therefore applicants' remarks are not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie


RABON SERGENT
PRIMARY EXAMINER